

REMARKS

Claims 5-6, 40-49, 55-57 and 59 are rejected under 35 U.S.C. §102(b) as being anticipated by Lu et al. (U.S. Patent No. 4,983,544). Claims 5-9, 40-49, 51-53, 56-57 and 59 are rejected under 35 U.S.C. §102(e) as being anticipated by Park et al. (U.S. Patent No. 5,840,591). Claim 50 is rejected under 35 U.S.C. §103 (a) as being unpatentable over Lu et al. Claims 50 and 55 are rejected under 35 U.S.C. §103(a) as being unpatentable over Park et al, in view of Lu and further in view of Sung (U.S. Patent No. 5,753,551).

Claims 7-9 and 51-53 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-15; claims 1-16; claims 1-18 and claims 1-12 of U.S. Patent Nos. 6,884,687; 6,861,311; 6,403,429 and 6,300,204.

Regarding the double patenting rejection based on U.S. Patent nos. 6,403,429 and 6,300,204, this rejection was previously presented by the Examiner (paper no. 12 mailed February 12, 2003). The issue was resolved in Applicant's favor, and therefore, the double patenting rejection based on U.S. Patent nos. 6,403,429 and 6,300,204 was withdrawn without a terminal disclaimer being filed (response mailed June 12, 2003). Moreover, claims 7-9 and 51-53 existed in the present application (see response mailed June 12, 2003) when the Examiner subsequently withdrew the double patenting rejection (paper no. 16 mailed September 18, 2003). Accordingly, the Examiner should withdraw the present double patenting rejection based on U.S. Patent nos. 6,403,429 and 6,300,204.

Regarding the double patenting rejection based on U.S. Patent nos. 6,884,687 and 6,861,311, both are patents that resulted from restriction requirements of the present application by the Examiner in paper no. 6. Accordingly, the Examiner is respectfully

reminded that 35 U.S.C. §121 authorizes the Commissioner to restrict the claims in a patent application to a single invention and prohibits the use of a patent issuing on an application with respect to which a requirement for restriction has been made as a reference against any divisional application. MPEP §804.01 (8th ed., rev. 3, vol. 1) *citing* 35 U.S.C. §121. Consequently, pursuant to this authority, the obviousness-type double patenting rejection based on U.S. Patent nos. 6,884,687 and 6,861,311 is inappropriate and should be withdrawn.

Regarding the anticipation rejection against independent claim 5 based on Lu, claim 5 recites forming a diffusion region in **semiconductive material**. Lu teaches diffusion regions 22 and 24 in “a refractory metal 14, such as titanium” (col. 5, lns. 26-40; Figs. 4 and 6). Respectfully, a refractory metal as taught by Lu *is not* a semiconductive material as positively recited in claim 5. Claim 5 is allowable over Lu.

Moreover, still referring to the anticipation rejection against independent claim 5 based on Lu, claim 5 recites forming a conductive line laterally spaced from the semiconductive material and diffusion region. The Examiner relies on the teachings of Lu to polysilicon 32 to allegedly teach the positively recited conductive line (para. 2, page 3 of paper no. 092705). However, the polysilicon 32 of Lu is a **storage node** (col. 5, lns. 55-57). In no fair or reasonable interpretation does a storage node teach or suggest a conductive line as positively recited in claim 5. For this additional reason, claim 5 is allowable over Lu.

Regarding the anticipation rejection against independent claim 5 based on Park, claim 5 recites wherein **an entirety** of the conductive line is **laterally spaced from the semiconductive material**. The Examiner relies on teachings of Park to a bit line 106 to

allegedly teach the positively recited conductive line and on teachings of Park to a semiconductor substrate 100 to allegedly teach the positively recited semiconductive material (para. 3, page 4 of paper no. 092705). However, Park teaches bit line 106 is at least partially in direct contact with semiconductor substrate 100, for example, see Fig 5C (**note:** see left side of Fig. 5C). Accordingly, Park fails to teach or suggest **an entirety of the conductive line is laterally spaced from the semiconductive material** as positively recited by claim 5. Claim 5 is allowable over Park.

No other rejections are presented against independent claim 5, and therefore, claim 5 is allowable.

Claims 6-9 and 55-56 depend from independent claim 5, and therefore, are allowable for the reasons discussed above with respect to the independent claim, as well as for their own recited features which are not taught or suggested by the art of record.

For example, consider the obviousness rejection against claim 55 based on the combination of Park in view of Lu and Sung. Claim 55 recites wherein the outer surface of the diffusion region comprises an uppermost surface, and wherein the conductive line comprises an uppermost surface which is coplanar with the uppermost surface of the diffusion region. The Examiner correctly states Park fails to teach this limitation (pg. 6 of paper no. 092705) and then states it would be an obvious matter of **design choice** to modify the Park device based on teachings of Sung and Lu (pg. 7 of paper no. 092705). Respectfully, design choice implies a complete lack of any motivation to modify the Park device which is a requirement of a proper *prima facie* case of obviousness.

To modify a primary reference, the Federal Circuit has stated that the Examiner must present a motivational rationale based on "objection evidence and [the] making [of]

specific factual findings with respect to the motivation” to modify primary reference devices. MPEP §2143.01 I. (8th ed. rev. 3, vol. 2) *citing In re Lee*, 277 F.3d 1338, 1342-44, 61 USPQ 2d 1430, 1433-34 (Fed. Cir. 2002). By relying on “design choice”, the Examiner is avoiding the requirement to locate **objective evidence** and **specific factual findings of a motivation to modify the Park device**, pursuant to the above authority. Accordingly, the Examiner’s motivational reasoning based on “design choice” is inappropriate as is clearly demonstrated by the Federal Circuit authority. Without a proper motivational rationale to support the obviousness rejection against claim 55, claim 55 is allowable.

Regarding the anticipation rejection against independent claim 40 based on Lu, claim 40 recites forming a conductive line laterally spaced from the semiconductive material and conductive node. The Examiner relies on the teachings of Lu to polysilicon 32 to allegedly teach the positively recited conductive line (para. 2, page 3 of paper no. 092705). However, the polysilicon 32 of Lu is a **storage node** (col. 5, lns. 55-57). In no fair or reasonable interpretation does a storage node *teach or suggest* a conductive line as positively recited in claim 40. Independent claim 40 is allowable over Lu.

Regarding the anticipation rejection against independent claim 40 based on Park, claim 40 recites wherein the conductive line comprises an **uppermost surface which is coplanar** with the uppermost surface of the conductive node. The Examiner fails to address, or even mention, this positively recited limitation in the context of the anticipation rejection based on Park. In fact, with regard to the rejection against dependent claim 55, the Examiner correctly states that Park fails to teach or suggest this positively recited limitation (pg. 6, para. 7 of paper no. 092705). Accordingly, claim 40 is allowable over Park.

No other rejections are presented against independent claim 40, and therefore, independent claim 40 is allowable.

Claims 41-53, 57 and 59 depend from independent claim 40, and therefore, are allowable for the reasons discussed above with respect to the independent claim, as well as for their own recited features which are not taught or suggested by the art of record.

For example, consider the two obviousness rejections against dependent claim 50 based on Lu singularly, and Park, Lu and Sung in combination. Claim 50 recites wherein the forming of the conductive line and the electrically conductive material comprises forming both from refractory metals. For the obviousness rejection based on Lu singularly, the Examiner correctly states Lu fails to teach this limitation and provides a motivational rationale for modifying Lu stated with reference to structures of Lu as: "since the conductive bridge 140/14A is formed of refractory metal silicide, the formation of 32 from a refractory metal would be both reasonable in regards to similar or comparable performance of the device." (pg. 6 of paper no. 092705). This is simply a conclusory statement from the Examiner completely lacking the **objective evidence** and **specific factual findings** to support a motivation rationale pursuant to the above Federal Circuit authority.

For the obviousness rejection based on Park, Lu and Sung in combination, the Examiner correctly states Park fails to teach this limitation and provides a motivational rationale for modifying Park stated as: "Lu and Sung teach and suggest that conventionally the conductive line and the interconnect are formed of refractory metal, so the formation of both from a refractory metal would be both reasonable in regards to similar or comparable performance of the device" (pg. 7 of paper no. 092705). Instantly, with respect to Lu, this is contrary to what was stated by the Examiner (that Lu fails to teach this limitation) on the

previous page of the Action. Next, the alleged conductive line of Lu for which the Examiner relies is polysilicon 32 of a storage node, **not a refractory metal** (pg. 3 of paper no. 092705). Additionally, this alleged motivational rationale is simply a conclusory statement from the Examiner completely lacking the **objective evidence** and **specific factual findings** to support a proper motivation rationale pursuant to the above Federal Circuit authority. In fact, the two motivational rationales for the two respective obviousness rejections are akin to the conclusory statements set forth in *In re Lee* which were found to fail to provide the requisite motivation to support an obviousness rejection. Consequently, the two motivational rationales for the two respective obviousness rejections are improper and should be withdrawn. Without a proper motivational rationale to support the obviousness rejections against claim 50, claim 50 is allowable.

This application is now believed to be in immediate condition for allowance, and action to that end is respectfully requested. If the Examiner's next anticipated action is to be anything other than a Notice of Allowance, the undersigned respectfully requests a telephone interview prior to issuance of any such subsequent action.

Respectfully submitted,

Dated: 12-28-05

By:



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